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ESSAY

ON THE

INOCULATION

OF THE

SMALL POX.

To which are Added,

Some Examples of Persons Inoculated with
Good Success at *Hanover*. K

By JOHN WREDEN Body-Surgeon to His
Royal Highness the Prince of *Wales*.

Ars non habet osorem nisi ignorantem.

L O N D O N :

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ESSAYS

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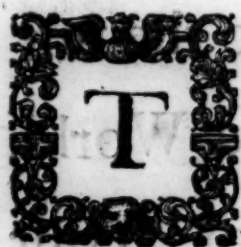
OF THE

TO HIS ROYAL HIGHNESS

FREDERICK LEWIS,

Prince of WALES, &c.

May it please YOUR ROYAL HIGHNESS,

HE Freedom I
take, in most
humbly dedica-

ting these few Sheets unto

Your Royal Highness, is

A 2 owing

DEDICATION.

owing to the Subject there
treated of.

For *Your Royal Highness*
having, by Inoculation,
been preserv'd against that
most dangerous Sicknefs,
the Small Pox, to the uni-
versal Joy of the World,
and especially of Your
faithful Subjects; I hope
Your Royal Highness will
vouch-

DEDICATION,

vouchsafe to cast a gracious Look upon these Reflections on that safe Remedy, which, in most humble Submission, I here lay at *Your Royal Highness's* Feet.

That Almighty God may grant to *Your Royal Highness* perfect Health, and all the Blessings becoming

DEDICATION

coming Your Royal Person, are the most earnest Prayers of

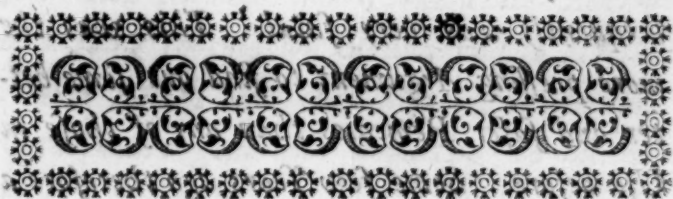
Your Royal Highness's

Most Obedient,

Most Devoted, and

Most Humble Servant,

JOHN WREDEN.



T H E

P R E F A C E.



HAT The Small Pox is the most dangerous of all Distempers unto Mankind, whereby even one third Part of them are carried off, is a confessed Truth, sufficiently attested by Experience : Which hath occasioned Men at all Times to think of some proper Means, whereby this most dangerous Distemper might be prevented. But the Means they found out often proved so weak, that notwithstanding all the Care

B taken,

taken, yet the End of the said Distemper frequently was very fatal. This was the more pressing Argument to find out some better and safer Remedies than any of those in Use before. Some few Tears ago therefore a Remedy was made known in Europe, called, The Inoculation of the Small Pox. This Remedy had long before been made Use of in the Eastern Countries, but hath, ever since it was known among us, been the Occasion of several Controversies; some setting it forth as the safest Remedy against the Small Pox, others, on the contrary, finding Fault with it as insufficient, bad and dangerous. Now observing from all Accounts publish'd of this Matter, that some did not at all understand it, and others have not been sufficiently informed of Particulars, I hope no body will take it amiss in me to have communicated my Thoughts on the said Experiment in these Sheets. I did not only ground them upon the Principles of Reason, but am also confirm'd in what I say, Partly by the Opportunity I have often had to discourse about this Subject

ject with Mr. Maitland, the chief Author of making Inoculation known, and to get the clearer Insight into this Matter, by the said Gentleman's generously imparting to me his great Experience that Way: And Partly also by mine own Practice. The Inquiry into this Subject being attended with many Difficulties, I have communicated in this small Treatise such Particulars as are requisite to the chief and most necessary Notions of this Matter; but am obliged to put off the Remainder, which must be known from repeated Experience, untill a better Opportunity. Mine only Views in examining without Partiality the said Remedy of the Small Pox, were the Publick Good: And for plainness sake I have made Four Sections. In the First Section I have treated of those Things whereby we know the Small Pox: In the Second, of Inoculation it self: In the Third, of the Inferences, which the Benefits of Inoculation are grounded upon, those Inferences naturally following from the foregoing Considerations: And lest the Reader should think them mere

Conjectures and no Certainty in the Matter; I have in the Fourth Section produced some Examples of such Persons as I my self Inoculated; to the End that the Circumstances which happen'd to them might put the Truth of the Three First Sections into a clearer Light.



ble. From whence it will easily appear what Good or Harm Inoculation can do.

For 'tis manifest, that, in order to form a true Judgment of the Thing, two Points are necessarily required, *viz.* First incontestable Reasons, and Secondly, that all Inferences should be demonstrated by them.

It is needless to lay down all the Properties of these Two Points, that being foreign to our Design in Hand: And it will be sufficient to our Purpose if we do only receive those Maxims in which all those that are able to judge of the Small Pox ought to agree.

These Maxims are, That the Small Pox are little Ulcers; which after several previous Symptoms, that shall be mentioned in their proper Place, come forth out of all the Parts of the Body, grow bigger by Degrees, and being ripened and opened, the contained Matter gives a fœtid Smell: And that those who once really have had this Distemper, never get it again.

These are the Two Points, which indeed all that have sufficient Experience this Way, agree in: But their Opinions differ very much concerning the Cause of the said Distemper, and why it doth not come a second Time.

But our Design not being at all to make a Narrative of those Opinions, I shall only endeavour to shew the Possibility, that a
Person

Person is never but once taken with the Small Pox.

That we may take the surer Steps, and approve of nothing without sufficient, at least probable, Reasons in this Matter, which at present seems very obscure; it is necessary first of all to examine the Nature of this Distemper.

'Tis very plain, that the Small Pox are Ulcers, which settle on all the outward Parts of Man's Body without Distinction: Hence it must needs follow, that the Matter contained in them is forced from within to those outward Parts; it being otherwise impossible to conceive why they should regularly settle upon the Surface of the Body: For by the Structure of Man's Body, and the Force of the said Distemper, it manifestly appears, that the Small Pox are never *Internal*, but *External*.

Now, it being indisputable, that the Fibres of the Skin are very thin, 'tis very likely, that Matter contained in the Small Pox is not able to get through, but is retain'd in those very thin Vessels, in which, for want of due Circulation, they must afterwards putrify and break out into Ulcers.

But this Matter being carried along to the extream Parts, with the Blood, must needs be contained in the same.

And Experience teacheth us, that the aforesaid Matter, as soon as the Small Pox ripen,

ripen, begins to stink, and infects them that meddle with it.

Now, considering that *Smell* consists in very subtle Effluvia of the smelling Particles, and that according to the standing chymical Experience, sweet-smelling Bodies either yield abundance of Salt or Oil; and on the contrary, that those which have little or nothing of either, give but a very little and foetid Smell; considering also that Salt and Oil is divisible into very small Parts, and that accordingly the smelling Particles evaporated from sweet odoriferous Bodies, must be very fine and subtle; it is evident that the Matter contained in the Small Pox comprehends little Salt or Oil, but consists of thick Particles, and that accordingly the Blood, at the Time any body is affected with the Small Pox, must be full of such thick Particles.

From hence we may further with very good Reasons account for some Persons having many, and others but a few Small Pox; because the Body is chiefly affected according to the Nature of the Blood; and considering that the Blood of one Person may be fuller of such thick Particles than that of another; the Consequence is necessary, that the Operations must be different in this, from the Operations in the other; and therefore such a one gets many, and the other but a few, Small Pox.

If

If we have a Mind exactly to ponder all these Particulars, it will evidently appear that the formal and immediate Cause of the Small Pox is the Blood, thickned to a certain Degree, which, according to the Disposition it hath at that Time, is able to produce in the *Fibræ motrices* of the Vessels such a Motion as immediately causeth the Small Pox.

We shall soon be convinced of the Truth of this Matter, if we do but mind the occasional Causes of the said Distemper, and the Symptoms attending it. The occasional Causes, such as are the Change of the Seasons of the Year; an irregular Diet; a Person's being under fearful Apprehensions of that Sickness; and Contagion, are all of them able to bring the Blood into such a Disposition as may produce the Small Pox: And the Symptoms of the Small Pox, *viz.* A Head-ach; a Heaviness in one's Members, Anxiety, Vomiting &c. give sufficient Proof of the thick Particles in the Blood at that Time.

But how the Blood, at the Time the Small Pox are to be produced, operateth in the Motricular Fibres of the Vessels is really very difficult to determine, tho' not quite impossible, if we could but always be furnished with the necessary Requisites in this Case.

The Requisites necessary to attain to an exact Knowledge of this Matter, are as
C follow-

followeth: First of all we must endeavour, by repeated Experiments, to know perfectly well the Nature and Disposition of the Blood, and the true Condition of the Motricular Fibres, both when they are in Motion, and when at rest; not only in a State of Health, but also in a State of Sicknes; as well in the Small Pox, as in any other contagious Distemper.

Towards the obtaining of this Scope, we ought carefully to examine the Matter contained in the Small Pox, that we might be able, from the aforesaid Circumstances, regularly, and orderly, to form a right Idea of the Operation of the Blood at the Time of the Small Pox; and then all those that die of this Distemper ought to be open'd, that we might learn, by several Experiments, the Operations of the Motricular Fibres in the Small Pox.

And thus those necessary Requisites make it appear, that it will be very difficult, tho' not impossible, to give a true and certain Idea of the due Operation of the Blood during the Small Pox.

Now the Disposition of our Body being such, that according to the several Circumstances, many Alterations may happen; Experience convinceth us, that we may be taken with any other Distemper, but especially with the Small Pox; and that at the Time when the occasional Causes of the Small Pox fill the Blood with thick
 Particles,

Particles, which immediately cause in the Motricular Fibres of the Vessels such a Motion as must needs produce the Small Pox.

Whence we may infer, that we get this Distemper, like others, by Chance, and that of all the Causes mentioned, none is more apt to produce it than Infection; for the stinking Smell, that attends the Small Pox, according to the plain Laws of Odours, being spread further, it is a necessary Consequence, that the Exhalations of the Corruption must enter the Nostrils, Mouth and Pores of Men, and being mixed in the Mouth with the Spit-
tle, are swallow'd down, and then, thro' the common Passages, go into the Blood. And these Exhalations of Corruption must needs, by Degrees, produce that Motion in the Motricular Fibres, which of Course causeth the Small Pox, unless the Body be otherwise disposed.

✓ All these Particulars being supposed, we may easily judge what tottering Foundations those build upon, who are of Opinion that we are born with the Small Pox, and that, according to their Scheme, a certain *Miasma Variolarum*, Seed or Poison, is within us, which, being stirred at a competent Age, and in a particular Season of the Year, begins to ferment, and then is expelled by Nature, *more citico*: Which is the Reason why they call this Distemper the perfect Crisis of Nature.

They pretend from this Hypothesis not only to shew the Reason why most Men must have the Small Pox, because we are born with them; but also to give a full satisfactory Answer to the Question, Why we cannot have the Small Pox a second Time? Because, say they, the hereditary Evil is cast out of the Body by the first Distemper.

I readily allow this Opinion about the Cause of the Small Pox, to appear very plausible, if merely consider'd by itself; especially since it is manifest from Experience, that most Men get the Small Pox: But whoever narrowly searcheth into the Matter, will be convinc'd, that this Distemper, tho' really different from all others, in that our Body is very easily, and but once taken with it; yet, notwithstanding, at most Times, it is caused by Chance and Infection. For not only the Structure of our Bodies, but several other Experiments also contradict this Notion of an hereditary Seed of the Small Pox.

Our Body consists of two Sorts of Parts, *viz.* of *Solid* and *Fluid*. The Solid constitute the containing Parts, or Body, and the Fluids are contained in the same: Therefore the hereditary Small Pox must either lurk in the Fluid or in the solid Parts.

Dr. *Willis* placeth this Matter in the Brain, and in the *Medulla spinalis*; but others,

others, most of them, suppose its Existence in the Blood it self.

Now, to find out the Truth or Untruth of this Notion, it is very necessary we should examine the Operations both of the Blood and of the solid Parts, and then we shall be sure this pretended hereditary Evil can never be in the Blood, nor in the solid Parts, from our Birth until the Eruption of the Small Pox.

For, considering that our Blood doth continually circulate, that such an Abundance of Humours in several Parts are separated from the Blood, and the Loss of them is daily made up again by such a Quantity of Nourishment; the Consequence is natural, that if we fall sick of the Small Pox some Years after our Birth, 'tis impossible we should still at that time have some of the Blood we received in the Womb, unless we would fancy some particular Places in our Body to be the Receptacles of the poisonous Matter of the Small Pox, till its proper Time of Eruption. But such a Notion would be contrary to all the Knowledge we have of the Structure of the human Body.

Besides, we daily observe, that as soon as any Alteration happens in our Blood, even by means only of an external Cause, we are very apt to decline into an ill State of Health, and consequently such a virulent
Matter

Matter in our Blood must needs have broke out presently after our Birth.

Since therefore, according to these Circumstances, 'tis not possible such a poisonous Matter of the Small Pox should always be in our Blood from the beginning of our Lives; it is not possible neither, to be from that Time in the solid Parts of the Body, all the Structure and Operations of them giving us such clear Proofs of the contrary, that we need no further Demonstration; because supposing such a poisonous Substance continually harbour'd in the Fibres, they would never be able to perform their Functions as they ought to do in a State of Health.

Now, whereas the Structure of our Body convinceth us, we are not born with the Small Pox; so we may likewise learn this from manifold Experiences: For, first, we daily see Children taken with the Small Pox, whose Parents never had them; and, on the other Hand, some never get them, tho' their Parents had been subject to them. Secondly, 'tis known from natural History, that this Distemper hath been carried by Infection from us into the remotest Parts of the World. For amongst others, several Observations of the *Indians*, witness, *That some European Travellers brought this Sickness amongst them, which raged like the most violent Plague, and deprived many Countries of their Inhabitants.*
And

And thirdly, many learned Men have made it evident with solid Arguments, that the most ancient Physicians have not mention'd this Distemper, tho' they have given us an Account of the chiefest of others, and consequently this must not have been known in those Days. Some indeed will object, that this Distemper could not be known to them as Inhabitants of the East, since it is to be look'd upon as *The National Distemper of Europe*. But at this Rate these Gentlemen openly allow it to be a Distemper catcht by Degrees, and not hereditary at all. For, according to their Opinion, it must necessarily follow, that the Climate and Disposition of the Air is the only Cause of it.

And thus it plainly appears, that this Distemper is not innate to us, but like other Distempers, brought upon us *successively*. However, we ought at the same Time to confess, that, according to undeniable Experience, of all Nations, we *Europeans* are the most apt to have the Small Pox.

After having thus inquired into the Cause of this Sicknefs, we are now obliged to fix our Thoughts upon searching the Reason why, having been once afflicted with it, we never get it again. It seems indeed very difficult to clear this Point; however, upon considering with the utmost Diligence the Circumstances that attend and follow
after

after this Sickneſs, we may reaſonably judge that the Small Pox imprint ſuch an Alteration in the Frame of the Motricular Fibres of the Veſſels, that tho' the Humours ſhould afterwards come again into the ſame Condition they were in during the Small Pox; the neceſſary Motion to produce the Small Pox cannot again happen, by reaſon of the Alteration made in the Frame of the Motricular Fibres of the Veſſels.

But here we ſuppoſe as a general Truth, that the Motricular Fibres of the Veſſels be Things compound; that is to ſay, ſuch Things, whoſe proper Parts are made up of other ſmall Bodies.

But a compound Thing may be bigger or leſs without changing its Nature; the Motricular Fibres of the Veſſels therefore may undergo an Alteration without any Change of their Nature.

Again, compound Things may change their Frame in a twofold Manner. For new Particles may either be added round about them in a ſuitable way, or taken away from them; or the Parts they conſiſt in may be put into another Order. Conſequently the Frame of the Motricular Fibres may be changed, if thoſe new little Bodies they conſiſt in are either encreaſed or decreaſed, after a ſuitable Manner; or if thoſe Parts are put into another Order.

But no Alteration can happen in Things compound, except in Reſpect of their Bignels,

ness, and Frame; of the Situation of their Parts; of the inward Motion; and of the Place of the whole Matter. Consequently the Motricular Fibres cannot undergo any other Alteration but in the aforesaid Particulars.

But suppose somebody should ask, whence such an Alteration, if it happen, derives from? It will be sufficient to answer, that all Alterations in Bodies happen thro' Motion, and we cannot think of Motion without a certain Power, which in Bodies proceeds from the Fluids, that move in their Spaces here and there void of their proper Matter: And that consequently the Motricular Fibres of the Vessels being not only moved, but having also a Power to move themselves, that very same Power is the Cause of those Alterations.

Since therefore, by Experience, we find an irregular Motion in the whole Body taken with the small Pox, we may hence, with good Reason, infer, that the Motricular Fibres must then also be mov'd in an irregular Manner; and this irregular Motion is nothing else but a certain Degree of Swiftmess, the Degree of Swiftmess being the Limits of the Power of Motion, which being changed by them, merely depends upon the Parts pressing one another.

And having above declared, that the Motricular Fibres are Things compound of several small Bodies, and that the Blood

of a Body afflicted with the Small Pox be full of thick Particles, which are likewise circulated with the Blood; it follows that these must press the little Bodies, which the Motricular Fibres consist of, and that these little Particles of the Fibres may be in a different Motion, tho' it be not observed in the whole Body.

Moreover we ought to observe the Laws of Motion, and the Alteration of the Bodies caused by their pressing one another. If a soft Body press another, the Parts touching one another are pressed closer together: Now the Parts of the Motricular Fibres being soft (which is evident beyond Contradiction, if without alledging any other Argument, we only consider the Growing of Bones) are touched or rather pressed by the thick Particles abounding in the Blood at the Time of the Small Pox; consequently the Parts of these little Bodies must be pressed together, and their Frame thereby changed.

Besides, 'tis manifest that one Body pressing another, and the Motion not ceasing after, it is done with equal Swiftneſs, according to the Direction of the stronger. Therefore an Alteration must be made whilst the thick Particles abounding in the Blood, and justly supposed in a more vehement Motion, are pressing the little Bodies of the Motricular Fibres and carrying them along with them. Whence we
further

further infer, that the said little Bodies, by the Means of this Motion, changing their Situation and Place, must be found in quite another Order than they were in before this Motion.

Thus having sufficiently proved, those little Bodies to change their Frame by the Pressing of the thick Particles, and that they being moved, are found in another Order: Also that the Thesis, we took for granted, is thereby cleared up, *viz.* that the Frame of a Thing compound may be changed, and its Parts put into another Order by Motion: Nothing, methinks, can be objected, with Solidity, against our asserting, that the Frame of the Motricular Fibres of the Vessels is entirely changed by the Small Pox.

Most People are taken with this Sickness in their Youth, all Parts of their Bodies being then soft and tender, and not yet arrived to their full Solidity (and this is likewise the Reason why adult Persons can be taken with it; because they may possibly want sufficient Solidity in the Parts of their Bodies to resist the thick Particles in the Blood at the Time of the Small Pox.) Now, considering that the Solidity of Bodies is computed by the Number or Bigness of the little Spaces observed between the proper Matters, and that a Body can be made solid by bringing the small Parts of proper Matter closer together; it is like-

ly, that by the means of Motions proved in the foregoing Discourse, the little Bodies of the Motricular Fibres are easier separated from one another, and brought into Motion in little Children, and that consequently these Parts being joined closer together, cause more Solidity in the Motricular Fibres than they had before; nay, such a Degree of Solidity, that tho' the Blood should afterwards abound again with thick Particles as in the Small Pox, and be brought into the same Motion; yet the little Bodies of the Motricular Fibres cannot be separated again from one another, because of the Solidity they attained to; nor can there be the same Effect, for they are then endued with stronger Resistance, and consequently the same Power that was able to bring them into Motion, before they arrived at this Solidity, can never do so again. And thus the Consequence is necessary, that whosoever underwent such an Alteration thro' the small Pox, is not subject to the same any more.

But if any body should require of me to demonstrate this Motion of the little Bodies to the Eye, I may justly answer, that these Sentiments are only proposed unto such as, being sufficiently instructed with Mathematical and Philosophical Principles, are well versed in Meditation; and not unto such as are able to judge of nothing but what they see with their own Eyes.

Suppose

Suppose some should object also, that yet Experience teacheth us several Persons to have had the Small Pox more than once; I beg of them impartially to call to Mind, if they can, those several Mistakes often committed in this Sickness, by taking the Small Pox for other Distempers, and other Distempers for the Small Pox. Wherefore it is of the greatest Consequence that it be proved by the surest distinguishing Signs, such or such a one to have had the Small Pox twice, or oftner, before we can believe it; for it is well known, that the bare affirming of a Thing is no Proof at all.

And this may suffice to shew the Nature of the Small Pox; their Cause; the Reason why Children are more subject to them than adult Persons; why adult Persons may likewise get them; and why those who have once been afflicted with them, can never get them again.

SECTION II.

Setting forth the Consideration of the Inoculation of the Small Pox.

IT appears from the foregoing Discourse, that our Bodies are very apt to get the Small Pox sooner than any other Sickness; that this Distemper being once over, can never return again, and that, according to
Expe-

Experience, it is one of the most dangerous, the Danger being very manifest, not only from the Multitudes of Men that have lost their Lives by it, but also from a great Number of those, who, tho' they escaped with their Lives, yet are disfigured in their Faces, afflicted with weak, nay, very often with blind Eyes, and with many other Infirmities of the Body, which the Small Pox left behind them. These therefore have always been very weighty Motives to find out some Means, that might either entirely preserve us from this dangerous Distemper, or, at least, render it more easy to us than commonly it is.

For to be entirely free from the Small Pox, Advice was given, that all those who had never had them, should have no Commerce with such as either were themselves taken with, or attended those sick of the Small Pox. But tho' Experience witnesseth the Small Pox to have reached remote Persons, because they are for the most Part brought upon others by Infection; yet, nevertheless, they may sometimes arise without any outward Cause.

This therefore proving no sufficient Remedy entirely to preserve us from the Small Pox; People put the more Confidence in other Remedies to render this Sickness more easy. For this Purpose there hath been a constant Custom to send such as never had the Small Pox unto them that
were

were sick of a good Kind, in order to have them likewise infected with the same good Kind.

— But Experience hath also rendered this Remedy very uncertain, because we very often see, that notwithstanding some, tho' they never had the Small Pox before, do not get them at that Time, or that even a bad Kind breaks in upon them, and kills them, tho' they have been infected by a good Kind.

Hence it is evident, that these Remedies are not at all safe, either entirely to preserve us from the Small Pox, or to render them more easy. And these Circumstances made People believe there was no safe nor certain Remedy to be had against this Distemper, either to avoid it, or render it more easie, untill at last, some few Years ago, a new Remedy hath been made known, which passeth by the Name of *Inoculation of the Small Pox*, and is affirmed to keep us safe and free from all bad Consequences of them.

Since therefore it is my chiefest Design to examine this Remedy by the Laws of Reason, it will be necessary to consider what it properly doth consist in, and what is to be observed about it: And then it cannot be difficult to lay down positive Assertions about the Good or Harm of this famous Inoculation.

The

The Method of Inoculation is as followeth, *viz.* Some of the Small Pox, when fully ripe, are opened upon one that is sick of them, and the Corruption contained in them is as it were inoculated, or ingrafted upon another Person, in order to excite in him the same Distemper, by the said Corruption's mixing with his Blood.

In this Inoculation two sorts of Circumstances are observed; some whereof concern the Person of whom *the Matter* to be inoculated is taken, and some the Person who is to be inoculated.

With the Person from whom *the Matter* is to be taken, the following Circumstances are to be observed: It is required that he have the *Discrete* or Single Small Pox, and that he be pretty well as to other Respects. Upon such a Person, some Small Pox are opened with a Lancer, when full ripe, which commonly is the Tenth Day after the Eruption; the Matter or Corruption that issueth out is squeezed into a Piece of Cotton and closely put up in a little Box, to be carried next to the Skin untill it is used, which may be done some Weeks after. The Corruption thus taken will always have its desired Effect, whether it be cold or warm; however we may be sure that the fresher it is, the fitter it must be to cause Infection.

With those upon whom the Small Pox are to be inoculated, the Circumstances are
to

to be minded as followeth. We chuse for that Purpose Persons vigorous and in good Health, as far as may be known from outward Signs. As for Children, they ought not to be inoculated when about breeding of Teeth; lest some Accident or other should thereby be caused. If the Persons are adult Women, Regard must be had to their monthly Courses, and the Inoculation always undertaken the first Week after them; for then there will be Three Weeks left for the Cure, let them be otherwise of what Age soever you please. These Persons must, some Time before the Inoculation, keep a very regular Diet, which is the proper and due Preparation of the Body. But how far this must be extended, and whether it is necessary to order any other Preparation of the Body for adult Persons, these being Circumstances very much depending upon Experience, I shall further inquire into them with all Diligence in the Second Part I hereafter design to publish, please God, concerning this Subject. The Person being thus prepared for Inoculation, a longitudinal or transversal Incision is made in the Skin, with a Lancet, no deeper than just to make it bleed, upon both Arms, under the *Musculi deltoides*, where commonly Issues are applied: The Corruption kept in the Cotton is put into this Incision and cover'd with a plain Plaster; as for Instance, with a Plaster of *Diascodium*,

E

which

which is fastened with a little Compress and Bandage: The Bandage is taken off again 24 Hours after, the Cotton removed and the Incision again cover'd as before, and this to be continued daily till the Small Pox break out. But as soon as they appear, the Bandage is repeated every second or third Day till the Sickness be over; lest the Patient should thereby be troubled and uncover'd without Necessity. Mean while the Patient ought always to keep a very strict Diet, eating Victuals that will easily digest, and drinking good Barly-Water, and keeping in a moderately warm Room.

In *Theffalia*, at *Constantinople* and *Venice*, where this Operation hath been practised these many Years, they use a rougher Method in making the Incision, *viz.* They prick little Holes into the Skin, on the Arms, Legs, Hips, &c. with a Pin adapted to that Purpose, and then they separate the Skin with a Knife, pour the Corruption of the Small Pox into this Wound, and tie one Halt of a Nut-Shell over it; as may be seen at large in the Dissertation of *Jacob a Castro De Inoculatione Variolarum*. But that Way proving more painful and troublesome to the Patient than the foregoing, we justly prefer this.

As often as these Circumstances were observed on both Sides, the Consequence did always shew that the Incisions began to ripen very much by Degrees, and according

according to the Disposition of the Body, the true Small Pox appeared either the seventh, eighth, ninth, or tenth Day, &c. Nay, sometimes, tho' very seldom, the Eruption of the Small Pox happened several Weeks after the Inoculation, an Instance whereof Mr. *Maitland* says to have seen but lately in a certain Noble Family. The Accidents in these Small Pox, as Experience hath manifested, have commonly been very moderate in Comparison to those of the Small Pox in the natural Way. These Small Pox have dried sooner, very seldom left any Marks, and the Incisions have afterwards healed of themselves. And tho' it sometimes happened, that, by Reason of a bad Constitution in the Body, a bad Sort of Small Pox appeared, and the Symptoms were more vehement than usual; yet it always hath been attested by those who observed it, that very seldom any Patient, if he did not neglect himself, nor was neglected by others, lost his Life that way.

The Method to cause the Small Pox after the aforesaid Manner, we chiefly owe to the Eastern People, according to all Accounts we have, and especially to the *Grecians*, with whom it hath been in Use these many Years. But for improving of this Experiment, and making it known in most Parts of *Europe*, we are indebted to the Care of Mr. *Maitland*, a famous and very skilfull *English* Surgeon, who hath seen

the Inoculation of the Small Pox practised at *Constantinople* with very great Success; who, afterwards, both at *Constantinople* and in *England* hath practised it himself with the desired Success of Health, and hath always prospered so well, that no Scruple was made to employ him in the inoculating the Royal Family in *England*, and but of late, His Royal Highness, our most gracious Prince also. In this he likewise succeeded so well, that we have great Reason to render our sincere Thanks to God Almighty for his Blessing bestowed upon us in this Case. The said Gentleman hath by great Experience observed (as may be seen in his two learned Treatises published for this Purpose) that the Small Pox may be at all Times produced, provided the Constitution of the Person to be inoculated be not quite contrary, especially in fine Summer Weather; that by the Corruption issuing out of the Incisions, the Small Pox may likewise be produced; and that none of the Inoculated, if the true Small Pox be brought upon him by Inoculation, doth get them again: Neither did ever Inoculation take Place in those that had had the Small Pox before.

SECTION

SECTION III.

Containing the Inferences that are made from the foregoing Discourse with an Answer to the chiefest Arguments objected against this Experiment.

Whoever doth exactly weigh the whole foregoing Discourse, will be able to form a solid Judgment, that the Small Pox produced by *Inoculation*, cannot, by far, be so dangerous as those *in the Natural Way*. For, first, it may very often happen, that the Small Pox seize upon a Person when his Body is very ill disposed, and consequently the Symptoms must needs be worse, than at any other Times; but this cannot be so at an *Inoculation*, for that ought never to be made upon a sick Body, as far as Health may be known by outward Signs. Secondly, the Small Pox may attack a Man at unawares, whereby it may easily come to pass that a Patient out of meer Ignorance put his Life in Danger. If, for Instance, an adult Person complains of a Pain in his Head and Limbs, of a Heaviness in his Limbs, of a disturbed Sleep, and such like Accidents, which use to precede the Eruption of the Small Pox: Then People will, perhaps, seldom think the Small Pox will immediately follow, but
very

very likely according to the Difference of the Symptoms, and the Disposition of their Body, will let Blood, take a gentle Purge, or use such other Remedies whereby such an Alteration may happen in the Body of the Patient, that, at the Eruption of the Small Pox, he may be in the utmost Danger of his Life. Which bad Consequence is not to be feared in the Inoculation; for then we know what Sickneſs will follow, and the Manner of that Sickneſs, and therefore we can regulate the Circumſtances accordingly every Day. Thirdly, a Perſon may be infected by another that hath the worſt and moſt dangerous Kind of the Small Pox, and get the very ſame, which don't happen in Inoculation, becauſe the Corruption of the bad Small Pox is not to be made uſe of for Inoculation. And fourthly, we know by Experience, that ſeveral Infirmities very often remain after the Natural Small Pox, which never happeneth after the Inoculated ones; becauſe the Running of the Corruption from the Inciſions and the Preparation of the Body by a regular Diet, keep the Patient entirely free from them: The Truth of which hath been ſufficiently and perfectly well proved from many Thouſands of inoculated Perſons.

If we well conſider all theſe Circumſtances, we may eaſily answer thoſe that are of Opinion, that thro' the Inoculation
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of the Small Pox Nature is violently used, and an unripe Matter forced to ripen. For considering that most Persons get this Sickness by Infection, the Manner of which Production is laid down P. 9. and that of the Inoculation P. 20. Every body therefore may easily perceive the Difference only to consist in that, by Inoculation the Infection is communicated to the Blood immediately; but by the Natural Small Pox, for the most Part, by Degrees, thro' the common Passages of Concoction. Hence it necessarily follows, that the *First Way* of propagating the Infection be safer and easier than the latter.

The aforesaid Circumstances put together likewise answer those, who go so far as to call Inoculation a frivolous, needless, and malicious promoting of a Sickness. For, as it is manifest, that most People get the Small Pox; that they cannot return a second Time; that in the natural way they often leave very bad Accidents behind them; and that the Inoculated Ones are always safer than the others, as hath been demonstrated by most weighty and confessed Arguments: I therefore appeal to any rational Man, whether (knowing that both the express Commands of God, and the Laws of Nature oblige us to take all possible Care of our own Preservation) we can account for it, if contrary to all Reason, and to both those natural and divine Obligations,
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we willfully continue in the Danger of bringing upon us an unhealthy and deformed Body by the natural Small Pox, when we might have prevented it by Inoculation : And tho' it be true, that not every one is troubled with those sad Remains of the Small Pox, yet nevertheless none can pretend to have fathomed the Providence of the All-knowing God, so far as to be sure he shall not get blind Eyes, a deformed Body, &c. by the Small Pox.

I easily imagine, that some ground these Thoughts of theirs upon the Instance of those who died of the Inoculated Small Pox, which to them is a powerful Motive to find fault with Inoculation, alledging, that those must needs have been the Cause of their own Death, which would not have ensued without Inoculation. But if all the above-mentioned Circumstances to be observed with Inoculation are thoroughly examined, we must be convinced that Inoculation itself cannot have been the Cause of their Death. For that entirely depended either upon the ill Disposition of their Body, or upon the neglecting of the Patient : Whereas Experience confirms, that in Proportion hardly One in a Hundred died of the Inoculated Small Pox; and that there always were, for ought we know, such Circumstances about those who did die of them, as will make good our attributing their Death unto one or both the said Causes,
and

and not to Inoculation at all. But granting that now and then some few die of the Inoculated Small Pox; must we therefore presently and entirely reject such a Remedy, that hath been found Proof by so many Experiments. I leave every body to judge what we then must think of all our wholesome Remedies; for, after some, tho' needless, Pains, we might sufficiently observe that there is not one Remedy in the Whole Art of Physick and Surgery, upon the Application whereof Death did not sometimes ensue, instead of the Recovery expected.

Therefore we are bound in Reason, to offer up our most hearty Thanks to God Almighty, for his having vouchsaf'd to reveal unto us a Remedy so safe and easy against this dangerous Sicknes; but withal, we never ought to forget what the divine Word of Truth assureth us, that he hath *numbered our Days*, and appointed the End of them, even before we had our Being.

SECTION IV.

Containing some Observations about the Persons I have Inoculated within two Years.

NOW being by the foregoing just Inferences assured of what Good Inoculation affords, we have at last one Point

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more to discuss, *viz.* the Experience of this Remedy itself; in order to examine into the Truth, whether Experience really answereth the Circumstances laid down before.

The *Second of February last Year*, I did in the Presence of his Majesty's Physician in Ordinary, Dr. *Hugo*, inoculate a Girl of Three Years old, the youngest of Twins, and Daughter to a common Soldier belonging to Colonel *Sommerfeld's* Regiment. The Manner of Proceeding was thus: The Child having been purged the 28th of *January*, I took on the 2d of *February* following the Corruption from a Child in the Neighbourhood, that had a good sort of Small Pox. The same Morning, after Ten o' Clock, I made the usual Incisions on both her Arms, and on her Right Leg, and putting the Corruption of the Small Pox in, I cover'd them with the necessary Bandage. That whole Day the Child continued very well; but visiting her again the next Day at Eight in the Morning, I found her Pulse very quick, and an unusual Colour in her Face. These were the Alterations that happened in Twenty One Hours after the Inoculation. However, she continued all that Day brisk and well. Towards the Evening, she did not care to eat, and the Heat encreased a little. On the *Fourth*, about Eight in the Morning, the Heat had somewhat abated, and two red Spots appeared on her right Loin, but disappeared again in the Afternoon,

noon, and the Child was otherwise in her former Condition. In the Evening, I perceived the Incisions very much inflam'd, and cover'd with a little Crust, two little red Spots breaking also out near the Incision on the right Arm. The Morning after, being *the Fifth*, the said Spots rose higher. Towards the Evening, the Heat was pretty strong, and besides the aforesaid two Spots, there appeared about twenty more on her Legs and left Arm; nor would she eat any thing that Evening. *The Sixth*, she found herself very well, and the Spots quite disappeared again, which made me fear the Inoculated Corruption had not been strong enough to produce the Small Pox; however, the Incisions were very fiery, and ready to break. *The Seventh*, the Child continued as before, except that, towards the Evening, the Heat increased, which abated again on *the Eighth*; yet she was all Day long full of red Spots; the Incisions begun to swell very much, and to be pretty fiery. *The Ninth*, more Spots appeared in several Places, and the Incisions did break and run, except That on the right Arm, which always continued dry. *The Tenth*, the Spots grew bigger, and two pretty large Small Pox settled on her Neck, otherwise she was indifferent well. In the Afternoon, four more Small Pox settled on both her Hands, and in the Evening, fifteen of the Spots on her Back grew very large. *The Eleventh*,

all the Small Pox began to swell, but she was very well that and the following Days, till the seventh, when the Small Pox swell'd bigger and bigger, but rather broader than higher, and which deserveth a particular Notice, came out only upon her Head, in her Face, on her Arms and Legs, upon her Back and the Soles of her Feet, but upon her Belly only a few; and upon her Breast none at all were to be seen. On her right Arm, where the Incision did run, appeared a great many more than on the other; and on her left Leg, which had no Incision, there were likewise more than on the right. The Patient found herself in other respects very well; she had no Looseness, no Cough, no Hoarseness, neither Heat nor Drought. She was not restless, her Face not swoln, nor her Eyes shut. In short, she found herself in such a Condition, as no Child that hath even the best sort of Small Pox can be. *The Seventeenth*, the Small Pox begun to dry, and the Child was constantly so well, that on *the Twenty Eighth* of that Month a Purge was ordered her, to make an End of the Cure. Thus the Small Pox plainly appeared *the Seventh* Day after the Inoculation, and did not continue longer than *seven* Days. Here I ought to mention, that the Patient's Sister being often laid into the same Cradle with her, and keeping her Company all the while, was infected, and got the Small Pox

Pox *in the natural Way*, but was so dangerously sick, that her Circumstances made us very much doubt of her Recovery. However, at last, she did recover. Afterwards these Twins both got the Measles at the same Time, but with a great Difference, because the Inoculated Child overcame them much easier, and sooner recover'd her Strength again than the other. After the Measles, the Inoculated Child grew so well, that, having been before the least and weakest, she now seems lustier, stronger, and older than her Sister, if you see them both together.

Whence it is very evident, that this Patient had the true Small Pox: Because all the Circumstances attending the Natural Small Pox appear'd on her; and *Then*, the Sister of the Patient was infected, which could not have been, if she had not really had the true Small Pox. But these Small Pox, according to the Account given before, have been more moderate than the Natural ones. For *First*, the Symptoms in general were not so vehement as in the Natural Small Pox: And *Secondly*, they dried much sooner than those commonly use to do; and, as it is well known, that the good sort of Small Pox always dry very soon; so we may, considering all the rest of the Circumstances with this, *Thirdly* observe, that this Child had a good sort of Small Pox.

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The Sixth of March after, I did, in the Presence of his Majesty's Physician, D. *Hugo*, and the *Eighth ditto*, in Presence of D. *Wolff*, Physician of his Majesty's Household and Army, inoculate the Small Pox upon two Children in a Garden before the Gate of St. *Aegidius* at *Hanover*. The one was a Boy of Three Years old, and very tender, and the other a Girl of Ten Years old, which had already had the Small Pox some Years before, but very few of them only. In both Children, Twenty One Hours after Inoculation, the Pulse was altered, and a high Colour appeared in their Faces, which however was higher in the Boy than the Girl; in other respects, they were very well. The Day after the Inoculation, when I took off the Bandage from the Incisions, the Incisions on the Boy were very much inflam'd and fiery, but those on the Girl not very red. Moreover, there appeared round about the Incisions some red Spots on the Girl, but none on the Boy. The *Third Day* the Patients were indifferent well; but the Heat increased in the Boy, and on his Back and the Extremities, there were several little red Spots scattered up and down, and two likewise on each Cheek. They both had a good Stomach yet. The fourth Day after Inoculation, the Boy was in the same Condition as before, but the Girl very well, and the Incisions were dry; nor did she feel the least Alteration afterwards,

wards, tho' she did constantly tend the Boy. *The Fifth Day*, more red Spots broke out on the Boy, and the Incisions begun to be redder and thicker. *The Seventh Day* after the Inoculation, the Incisions breaking run very much, and the Spots grew bigger. As to the rest, this little Patient was in all respects like the aforesaid little Twin; so that *on the Seventh Day*, after the Small Pox had settled, they dried likewise by little and little, just as it had happened with the Girl.

From both these Instances we see again, that the Boy had a good sort of Small Pox, because the *Behaviour* of these Small Pox, all the Symptoms, and their early drying up, sufficiently demonstrate it. From the Instance of the Girl we may also learn, that the Small Pox leave such an Alteration in the Motricular Fibres of the Vessels behind them, that they cannot return again.

The Twenty Fourth of May, this Year, I did about Seven in the Evening, and in the Presence of Dr. *Hugo*, inoculate an Officer of the Guards on both his Arms, as usual. The Gentleman was Twenty One Years of Age, and, in all Appearance, of a very lively Constitution. *The Twenty Fifth following*, he was as well as at other Times, and the Incisions being opened that Evening, appeared somewhat reddish. *The Twenty Sixth*, the Patient was likewise very well, and the Incisions being opened in
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the Evening, were found to ripen a little; *The Twenty Seventh*, the Patient found himself very well, and the Incisions being opened in the Morning, a green yellowish Corruption was under and upon the Plaister, but in a small Quantity, and on his right Arm there appeared two little Pimples, and upon the Middle of his left Cheek a very red Spot. *The Twenty Eighth*, he was very well in the Morning; the Incisions had issued forth the like Corruption, and that in greater Quantity than the Day before. In the Afternoon he felt a little Shivering in his Veins, and in the Evening a Head-ach, but only for about an Hour. *The Twenty Ninth*, he found himself very well; upon his left Cheek there was a pretty big Pimple, and all over his Face there were scatter'd little red Spots: The Incisions run pretty much. *The Thirtieth* he was very well till towards the Afternoon, when he complain'd of a Head-ach, but was well again in the Evening; the Incisions run still very much. *The Thirty First*, the Incisions were quite dry, but very fiery round about, red and painful; whereas the Days before, from the Inoculation till now, they had caused him no Trouble at all. That Morning about Ten, the Head-ach came again, and the Pulse was very much altered, but towards Noon, the Head-ach ceased, and the Patient was indifferent well till towards Seven in the Evening, when the Head-ach return-

returned more violently, and the Pulse beat with more Vehemence than before, and these Accidents continu'd till the next Morning, when, in his Sleep, he fell into a great Transpiration, upon which the abovesaid Symptoms were most of them over. *The First of June* in the Morning, he was very well, the Incisions were broke again, a piece of Skin as big as a Nail peeling quite off, and a great Quantity of green, yellowish, and stinking Corruption issued out, and in several places there appeared some Small Pox. The same Day, towards Evening, he was taken with a great Heat, the Head-ach, and a Drought, and vomited twice that Night, yet he slept pretty easy. *The Second* he was a very little better than the Day before, the Incisions ran but little, his Stomach, which the Days before had always been very good, was almost lost, and the former Symptoms continued the whole Day, and increased in the Evening. All Night long he slept very restless, vomited several times, and his Water having been entirely natural the preceding Days, was this Day very red. *The Third*, the Incisions ran much, the Symptoms were abated a good deal, and many Small Pox were to be seen in his Face, on his Head, Arms, and Legs, but very few upon his Breast, Back and Belly. All the Day long, the Symptoms were pretty moderate, and he rested tolerably well all that Night. The

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following Days, till *The Tenth ditto*, the Small Pox began to grow bigger and bigger. In his Face he had a good many, and some, as they grew big, joined together; however most of 'em remain'd single: The biggest were like Pease, and the smallest like Lentils. The Incisions issued forth abundance of Corruption those Days, and the Symptoms were tolerable, being only a moderate Fever. But then he had no Trouble in his Breast, no Cough, no Head-ach, no Convulsion, no vehement Drought. His Eyes were not shut up, tho' he had large Small Pox upon his Eye-lids. As the Small Pox grew bigger, the Places that had many of them began to swell, and he spit very much those Days. He had little Stomach, his Water was constantly red, but his Sleep very natural. *The Tenth*, the Small Pox began to dry in his Face, and he found himself as before: The drying of the Small Pox continued till *the Eighteenth*, when they were dry every where: During these Days, the aforesaid Spitting ceased, but his Water was red still, and yet the Fever mighty moderate, as ever it could be in a kind sort of natural Small Pox. At Night he always rested extraordinary well; and no other Symptoms attending, and his Body having been costive for Twelve Days, Necessity required to give him a Glyster. In the following Days till *the Twenty First*, he begun to mend apace; he got a Stomach again;

again ; the Incisions continued running very much , and his Water mighty thick, which was a Sign of a good Digestion : But the *Twenty First* his Pulse altered again, however pretty moderately, and that Evening many little red Points appeared upon his Breast, Back and Belly, where no Small Pox had been before. The next Day, being the *Twenty Second*, the Alteration in his Pulse quite ceased, but the Spots remained till the *Twenty Fourth*, when they peeled off all together, being generally as big as the Point of a Pin. He continued very well till the *Twenty Sixth*, when he, without any previous Alteration in his Pulse, got a Swelling on the inner Side of his left Knee, which, by the Application of a mollifying Ointment, ripen'd, and being open'd the *Twenty Ninth*, run very much. Till the 2d of *July* no Alteration happen'd, and the Gentleman recover'd his Strength manifestly, but that Day he got a Pain in the Middle of his Back, which by laying little warm Cushions filled with dry Herbs upon it, shifted from his Back, and settled behind the Shoulder-blade on the right Side ; and because the Pain continued that Day, he was blooded on his left Arm, whereupon the Pain entirely ceased ; but the Patient getting a violent Cough at the same time, his Majesty's Physician, Dr. *Hugo*, prescrib'd him proper Medicines, which he continu'd according as the Circumstances

required; however, he had no Physick before, there being no need of any. The Gentleman continuing to cough very much *the Fifth ditto*, and some Blood being mixed with the Flegm he brought up, he was let Blood again on his right Arm, thereby to prevent the breaking of the Vessels in his Lungs, which the violent Cough might have occasion'd. After which, the Gentleman found himself so well from Day to Day, that he went abroad *the Twentieth of July*, being entirely recover'd. The Scurf occasioned by the Small Pox remained longest in his Face, he having, even six Weeks after Inoculation, some Scurf still on his Forehead, Nose, and the Middle of his Cheeks, which indeed oblig'd him to stay at home so long. The outward Skin peeled off from his whole Body, no Place excepted; but tho' he had a good many Small Pox, yet very few Marks remain'd, and consequently his Face will not be disfigured at all, nor was there the least ill Habit of Body left behind. During the Time from his first Recovery to his going abroad, Dr. *Hugo* thrice ordered a gentle Purge to cleanse his Body. One Thing deserveth our particular Notice, *viz.* That the Incisions he had run very much, even till the Fourteenth Week after the Inoculation: Which Observation sheweth, that the Small Pox came as usual, by Inoculation, and not by Infection, because the Patient continued very well

well till the 17th Day ; and then, that these Small Pox were a very good Sort, as having been single, and the Symptoms very moderate, and stay'd but *Nine Days*, when they dry'd ; and that the said Gentleman was very much disposed to get the Small Pox, because several Symptoms followed after his Small Pox.

From all these Instances we may infer, that whosoever will but make Reflection upon the Symptoms which happened to these Inoculated Persons, and the Symptoms attending the Natural Small Pox, will plainly see, that the *Inoculated Small Pox* can never in themselves be so dangerous as the *Natural Ones* really are.

The Twelfth of June I Inoculated a little Girl of Five Years old with the Corruption from the said Gentleman, and performed all things requisite. The Incisions grew red, and run with a little Corruption ; the Child had got in several Places, little Spots ; the 8th Day after Inoculation, she fell sick, and vomited several times ; however, the next Day all the Symptoms were gone, and no Small Pox appeared, and she hath been extraordinary well ever since : Which makes it very evident, that supposing the Disposition of the Vessels be able to resist too powerfully the varied Motion caused by the Blood, when altered by Inoculation, the little Bodies of the Motricular Fibres of the Vessels are thereby hindered from causing
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the Motion necessary to produce the Small Pox, and that consequently it is not then possible the Small Pox should ensue.

On the 14th of *May* 1725, I inoculated my Sister, then about Five Years old, after the usual Manner. The Matter for this Inoculation was taken from the abovesaid Mr. *Hugo's* Son, a Lad about the same Age with her, and who had the *distinct* Small Pox. Mr. *Hugo* assisted at the Operation, and took all necessary Care for her Recovery. *The first Four Days* there were hardly any Alterations at all perceived. *The Second Day* after the Inoculation, the Incisions grew very fiery and painful, and yielded a good deal of Matter; several little red Points appeared, but more of them on her left Arm than on the right. *The Fifth* the Incisions were dry, but very red and swelled; she complained of a Head-ach, had very little Stomach, could not walk about so briskly as before, and was somewhat restless that Night. *The Sixth*, several little red Points appeared up and down upon her Belly, the Incisions were burst open, and yielded a good deal of red yellowish Matter. *The Seventh* the Points grew larger, all the Symptoms, that in themselves had been very moderate, quite ceased. The Small Pox, very few in Number, did not grow very big, and continued but for *Five Days*, when the Incisions immediately

mediately dried, and the Patient was quite restored to her Health.

Whilst she had the Small Pox, a Lad of Four Years of Age came to keep her Company; but being infected by her, he got the *Variolæ confluentes*, and died of them. As soon as she was able to go abroad, she was carried to him, and kept him Company till two Days before his Death: Nay, she has since been with many other Children that were sick of the Small Pox; but tho' she had a very few only, and such as did not, like others, last a whole Week, yet she never after perceived herself the least affected by what kind of Small Pox soever.

An INSTANCE of a successful Inoculation of the Small Pox performed at Pyrmont in the Summer 1725. Taken from the Account of Dr. Seip, Physician in Ordinary to the Nursery for poor Orphans there.

“ **I**N the Spring of 1725, when the Small Pox were very rife in our Neighbourhood, in the County of *Lippe*, and the Bishoprick of *Paderborn*, so that many Children died of them, and the Contagion was even brought to us, and had taken some Children at *Oissdorf* and *Pyrmont*, I resolved to try that famous Experiment of Inoculating the Small Pox in our Nursery for poor Orphans, where I have been Physician in Ordinary these
“ Thir.

“ Thirteen Years. I then expected but
 “ few of those Orphans to have had the
 “ Small Pox, there being but very few that
 “ had their Faces pitted. I hoped of those
 “ Thirty Children to meet with about Ten,
 “ who had not had them, in order to make
 “ the more Observations on so many Ex-
 “ amples. But inquiring into the Matter,
 “ I found but one Girl, Eleven Years old,
 “ named, *Anne Catharine Schweitzer*, and
 “ born in the County of *Witgenstein*, which
 “ had not yet had that Distemper. How-
 “ ever, I kept firm to my Resolution, to
 “ undertake an Inoculation. When I had
 “ obtained Leave from my Master, the
 “ Prince of *Waldeck*, His *Britannick* Maje-
 “ sty happened to arrive at *Pyrmont*, to
 “ drink the Waters, in whose Retinue was
 “ Mr. *Wreden*, Body-Surgeon to His Ma-
 “ jesty, and Surgeon-General to the Army.
 “ I proposed the Matter to that Gentleman,
 “ who readily undertook the Operation in
 “ the said Nursery, on *Monday* the 16th
 “ of *July*, 1725, about Ten in the Morn-
 “ ing. The Persons present at the Opera-
 “ tion were *Monf. de Westhoven*, his Son,
 “ *Jo. Godfry Frederick Westhoven*, Esq;
 “ Counsellour and Physician in Ordinary
 “ to the Prince of *Waldeck*, Mr. *Henrici*,
 “ Body-Surgeon, Mr. *Steits*, Surgeon, and
 “ myself. The Girl had her Skin ript open
 “ with a Lancet about half an Inch length-
 “ ways on both her Arms under the *Mus-*
 “ *culi*

“ *culi deltoides*, so as just to make the Inci-
 “ sions bleed : Then Mr. *Wreden* presently
 “ laid a little Thread on the said Incisions
 “ with some Matter, which had been tak-
 “ en out of some ripe Small Pox from a
 “ Lad of Five Years old, and tied it up
 “ with a Plaister, a Compress, and a small
 “ Bandage. On the 17th *ditto*, viz. Twen-
 “ ty Four Hours after the Operation, the
 “ Thread was removed, and a Plaister of
 “ *Diapalma* was laid upon them in its
 “ stead. The 18th the Incisions began to
 “ run very much, and to issue forth a great
 “ deal of Matter. The 19th they conti-
 “ nued as the Day before, and round about
 “ them, as far as the Plaister reached, there
 “ appeared several little Bladders, like Mea-
 “ sles in Hogs. The 20th, 21st and 22d,
 “ the Running continued as much as before,
 “ the said Bladders around the Incisions
 “ encreased both in Number and Bigness.
 “ All this while the Girl kept to her usual
 “ Diet; she had perceived not the least
 “ Alteration in her Stomach or Sleep, and
 “ found herself in every Respect as well
 “ as before the Inoculation. But, the 23d,
 “ she began to complain of a Weakness
 “ and Heaviness in her Limbs, lost her
 “ Stomach, the Suppuration and the Mat-
 “ ter from the Incisions encreased very
 “ much, and there appeared something
 “ black in the Incisions, which made me
 “ get them cleansed and dressed twice a

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“ Day,

“ Day, and Mr. *Steits* the Surgeon conti-
 “ nued to do so to the End of the Cure,
 “ whereas before they had been dressed but
 “ every Twenty Four Hours. On Tuesday
 “ July 24, the Patient had slept very well
 “ that Night, yet in the Morning when she
 “ got up, she began to shiver, sat close to
 “ the Fire, and complained of a Dizziness
 “ in her Head. She was very squeamish,
 “ and ready to vomit, her Pulse very quick
 “ and feverish, the Swellings run very
 “ plentifully, and had some blackish Matter
 “ in them still. Towards Evening she was
 “ order’d to Bed, and took some Mixture
 “ of *Diaphoretic* and *Bezoardic* Waters.
 “ She was weak, very hot and dry, and be-
 “ fore Midnight several red Spots appeared
 “ everywhere, but especially upon her Arms.
 “ The 25th in the Morning, the Small
 “ Pox sufficiently appeared all over her Bo-
 “ dy, but the most and biggest upon her Arms
 “ and Hands. That Morning, the Swel-
 “ lings upon her Arms were quite dry, but
 “ towards Evening they were full of Mat-
 “ ter again as before. In other Respects,
 “ the Girl was so well, that, if we would
 “ have given her Leave, she could have got
 “ up, and walked about, her Stomach was
 “ good again, but she drunk but very little.
 “ The 26th, the Small Pox encreased by
 “ little and little, all over her Body, both
 “ in Number and Bigness. The Swellings
 “ were full of Matter both Morning and
 “ Even-

" Evening, and the Patient was well, and
 " had a good Stomach.

" The 27th and 28th the Small Pox mul-
 " tiplied more and more; however, the
 " Incisions continued to run very much,
 " and the Bandage was full of Matter both
 " Morning and Evening.

" The 29th both her Eyes begun to
 " grow very weak and red, and to run,
 " yet her Eye-lids were not much swoln,
 " tho' several Small Pox appeared upon
 " them. The Small Pox were of the *distinct*
 " Kind, large and round, and almost all
 " of them distinct. We numbered about
 " Eighty in her Face, Forty on both her
 " Hands, and on the Soles of her Feet; but
 " the most on both her Arms, and around
 " the Incisions.

" The 30th, the Small Pox were full
 " large and ripe, the Girl's Eyes continued
 " running and weak, and the Incisions were
 " full of Matter.

" The 31st, several Small Pox, especially
 " in her Face, begun to burst; in the
 " Morning, the Incisions were dry, but
 " full of Matter again in the Evening. *The*
 " *First of August*, most of the Small Pox
 " were burst, and begun to dry apace, the
 " Girl's Eyes were weak and running, the
 " Incisions began to be filled with fresh
 " Flesh, and afforded very little Matter.
 " *The Second*, all the Small Pox were dry,
 " upon the Girl's Eyes there gathered a

“ Fluxion, which however she had been
 “ subject to before in the Spring and
 “ Autumn: The upper Eye-lids began to
 “ swell, and there appeared many new
 “ Pustules; in the Morning there was
 “ much Matter around the Incisions, but
 “ very little in the Evening.

“ *The Third and Fourth*, the Eyes mend-
 “ ed, upon the Application of some dissi-
 “ pating Remedies, and the Incisions left
 “ off running.

“ *The Fifth*, no Plaisters were laid upon
 “ the Incisions, which grew quite dry, and
 “ the Days following, the Fluxion on her
 “ Eyes ceased entirely, and she perfectly
 “ recover’d, and got rid of the Small Pox.

REMARKS upon this Instance.

IT is remarkable in this Case, *First*, That the Matter for this Inoculation had been taken out of a bad Kind of *Confluent* Small Pox, of which the Boy had lain blind for several Days, had suffer’d much by a Soreness in his Throat, by Swellings, a Cough and Shortness of Breath; nay, had been so sick and weak for several Days together, as to make those about him expect his Death every Moment; and yet the said Matter produced the *distinct* and *best* Kind of Small Pox.

Secondly, We were told both by the Patient and her Mother, that the Girl had sometimes had violent Convulsions for some
 Years

Years after she was born, and that her Mother is this Day subject to the Falling Sickness; and yet not the least Convulsion was observed in the Girl during her Sickness of the Inoculated Small Pox.

Thirdly, That the said Girl was no otherwise prepared for Inoculation than by being purged some Days before with *Gialappe* and *Mercurius Dulcis*.

Fourthly, That the first Week she was suffer'd to go abroad, and kept her usual Diet with the rest of the said Children, and was only restrained from eating coarse Victuals, that are hard to digest.

Fifthly, That not growing sick before the Eighth Day after the Inoculation, she was not order'd to keep her Bed, but from that Time, and drank Small Beer lukewarm, and *Broyhan* (Liquors she had been used to before) during the whole Course of her Sickness. For a Change, she had also Tea and Water-Gruel, and no Physick but two Doses a Day of the aforesaid Bezoardic Mixture.

Sixthly, Altho' the Patient was daily visited by the other Orphans, of whom there is about Thirty in the said Nursery at *Pymont*; and tho' she lay in the same Room with the other Girls all the Time she was sick, yet none of the other Children were infected: Which confirmed their having had the Small Pox, as they had told me before.